Designing the Future(s) of the University

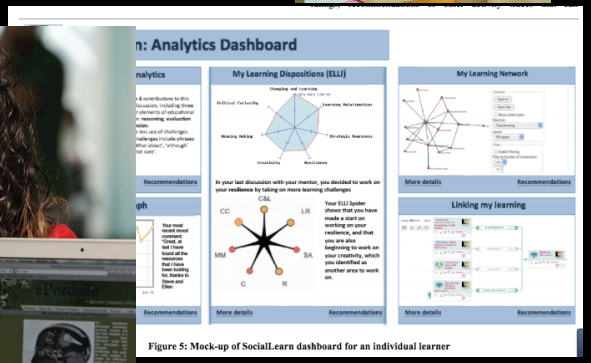
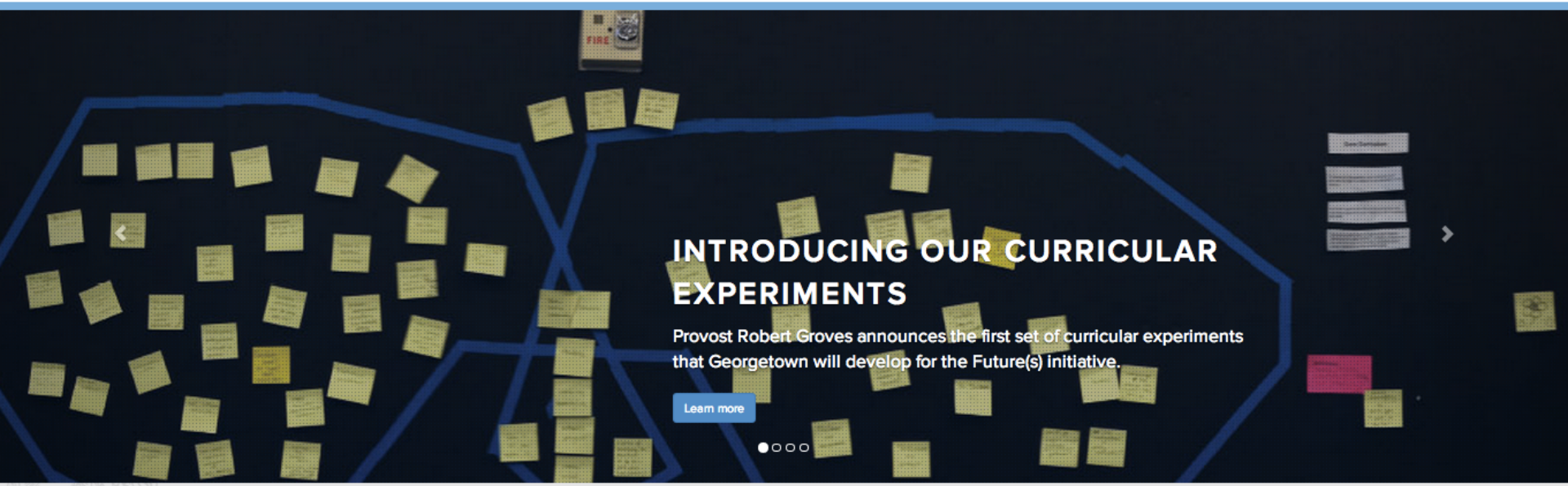


Figure 5: Mock-up of SocialLearn dashboard for an individual learner

Randy Bass
Georgetown University

Concordia University
February 5, 2015



DESIGNING THE FUTURE(s) of the university

2030

Flipping Disruption into Design

The Design Question

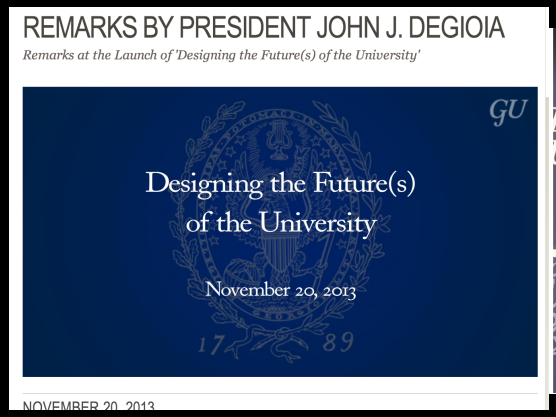
If we were designing the university for this moment in history what would it look like?

Flipping Disruption to Design

What kind of education is needed at this moment of history?

What kind of education is *only possible* in these emerging conditions?

Jack DeGioia, President, Georgetown



Three interlocking and inseparable elements of the University:

- Formation of men and women
- Knowledge-creation through scholarship and research
- Public Good and the Common Good

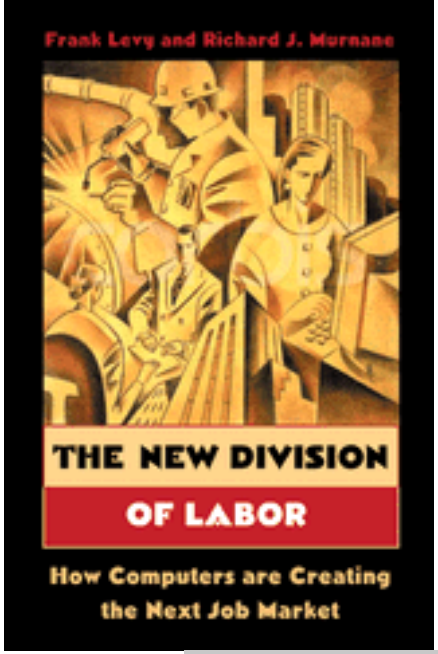
"The Future of the University as a Design Problem" (Spring 2015)
Profs. Ann Pendleton Jullian and Randy Bass

2030: Designing for *context* not content

What will the conditions of knowledge, technology, learning and work be in 15 years?

What kind of graduate would we want to produce?

Changing Capacities and Outcomes for the 21st C

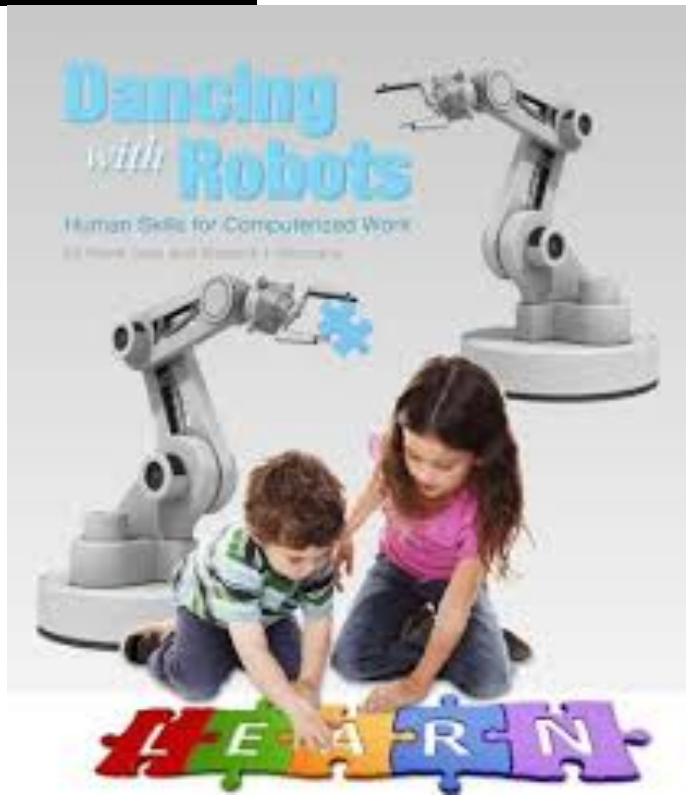


"The human labor market will center on three kinds of work:

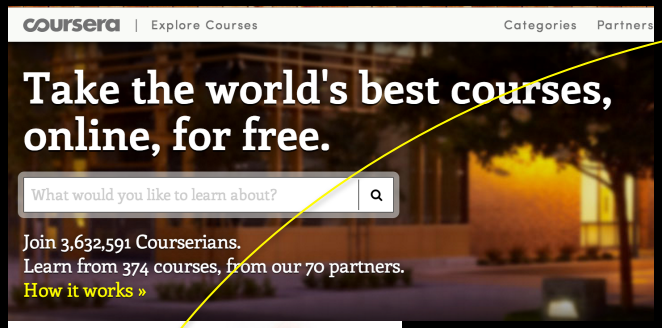
solving unstructured problems,

working with new information (including complex communication),

and carrying out non-routine manual tasks."



Being Disrupted



Skill-based Learning

Open Online Courses

External Forces of Potential Disruption

Data Analytics / Adaptive Learning

Public Pressure on Access, Metrics of Impact

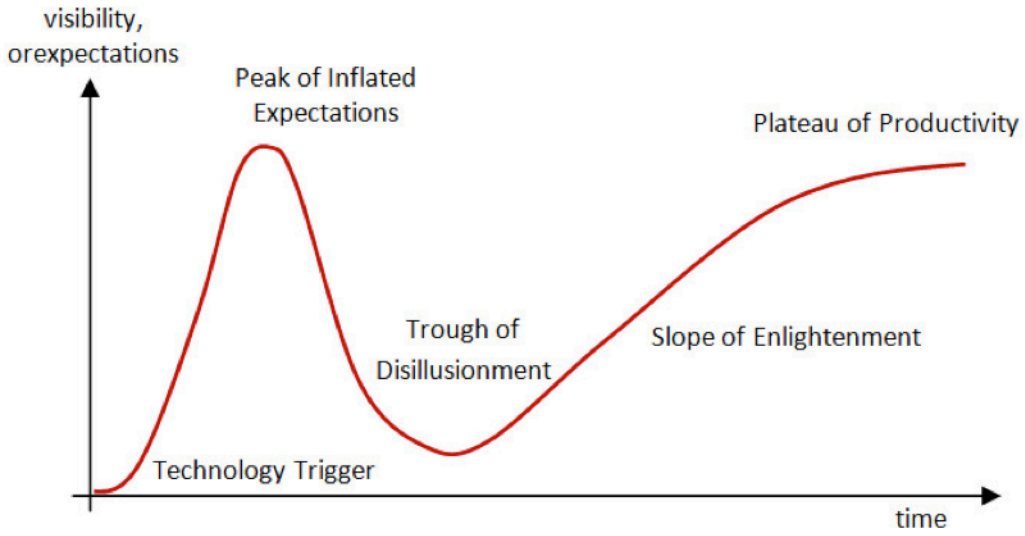
'Shake Up' for Higher Ed

July 25, 2013

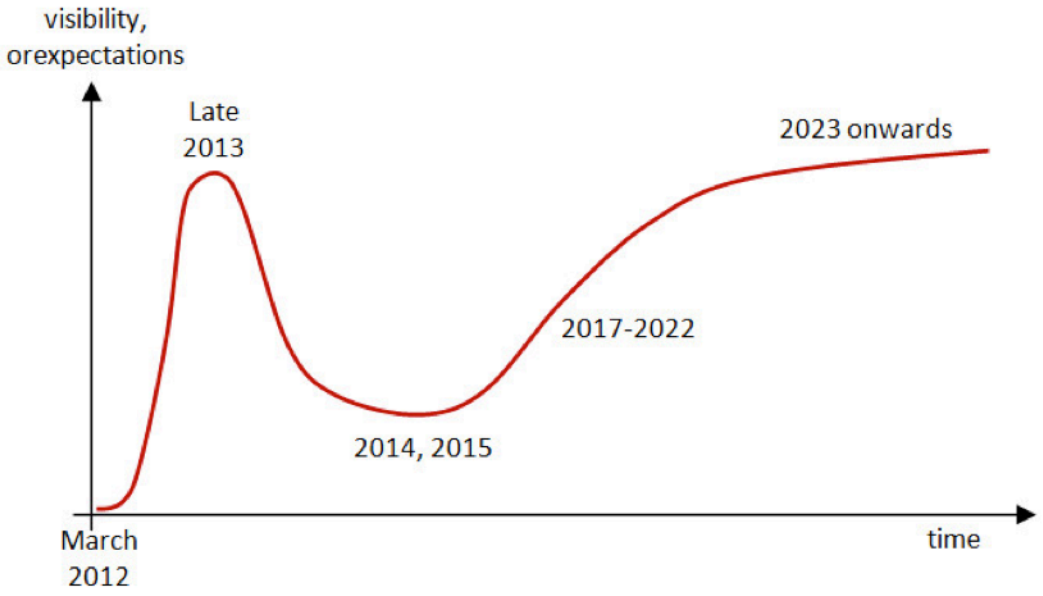
By Scott Jaschik

President Obama vowed Wednesday that he would soon unveil a plan to promote significant reform in higher education -- with an emphasis on controlling what colleges charge students and families.

Gartner Group
Hype Cycle



MOOC
Hype Cycle



http://pando.com/2013/09/13/moocs-and-the-gartner-hype-cycle-a-very-slow-tsunami/

Some Assumptions

In 5-10 years, universities will be out-competed on costs on information and content delivery.

The “credit hour connected to seat time” will start to give way to other measures of learning and progress.

There will be an expansion of kinds of degrees and certification.

The University in the future

In the new landscape, there are only two dimensions of education that will be unique to universities:

Mentored learning

The arc of learning

Disrupting Ourselves

Our understanding of learning has expanded at a rate that has far outpaced our conceptions of teaching.

High Impact Practices

(National Survey of Student Engagement--NSSE)

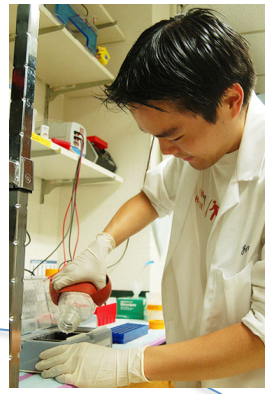
- First-year seminars and experiences
- Learning communities
- (Common intellectual experiences)
- Writing-intensive courses
- Collaborative assignments
- Undergraduate research
- Global learning/ study abroad
- Internships
- Community-based learning
- Capstone courses and projects

George Kuh, *High Impact Practices: What are they, who has access to them, and why they matter*. (AAC&U, 2008)

Study abroad

Experiential co-curriculum

Internships



Undergraduate research

Experiential co-curriculum

Collaborative Assignments

First-year Seminars

Formal undergraduate curriculum

Writing-intensive

Capstone courses

Student Affairs Advising

Community-based learning

Experiential co-curriculum

Where are the high-impact practices located?

Experiential co-curriculum

What makes High Impact Practices high impact?

Invest time and effort (time on task)

Experiential co-curriculum

Accountable talk and thinking

Formal undergraduate curriculum

Get (and give) frequent and meaningful feedback

Make daily decisions – judgment in uncertainty

Experiential co-curriculum

NEW ECOLOGY OF LEARNING

Meet challenges to perspectives and belief, take risks, operate outside comfort zone

Opportunity to integrate, synthesize, make meaning

Experiential co-curriculum

What makes High Impact Practices high impact?

Invest time and effort (time on task)

Accountable talk and thinking

Experiential co-curriculum

Formal undergraduate curriculum

Get (and give) frequent and meaningful feedback

Make daily decisions – judgment in uncertainty

Experiential co-curriculum

How do you make courses more like high-impact practices?

Meet challenges to perspectives and belief, take risks, operate outside comfort zone

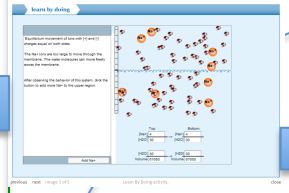
Opportunity to integrate, synthesize, make meaning

The Recentered Curriculum

Engaging Difference
Ethical Judgment
Self-Reflection
Practitioner education, leadership

Massive Online

Blended interactive online



Formal undergraduate curriculum

High impact integrative curriculum

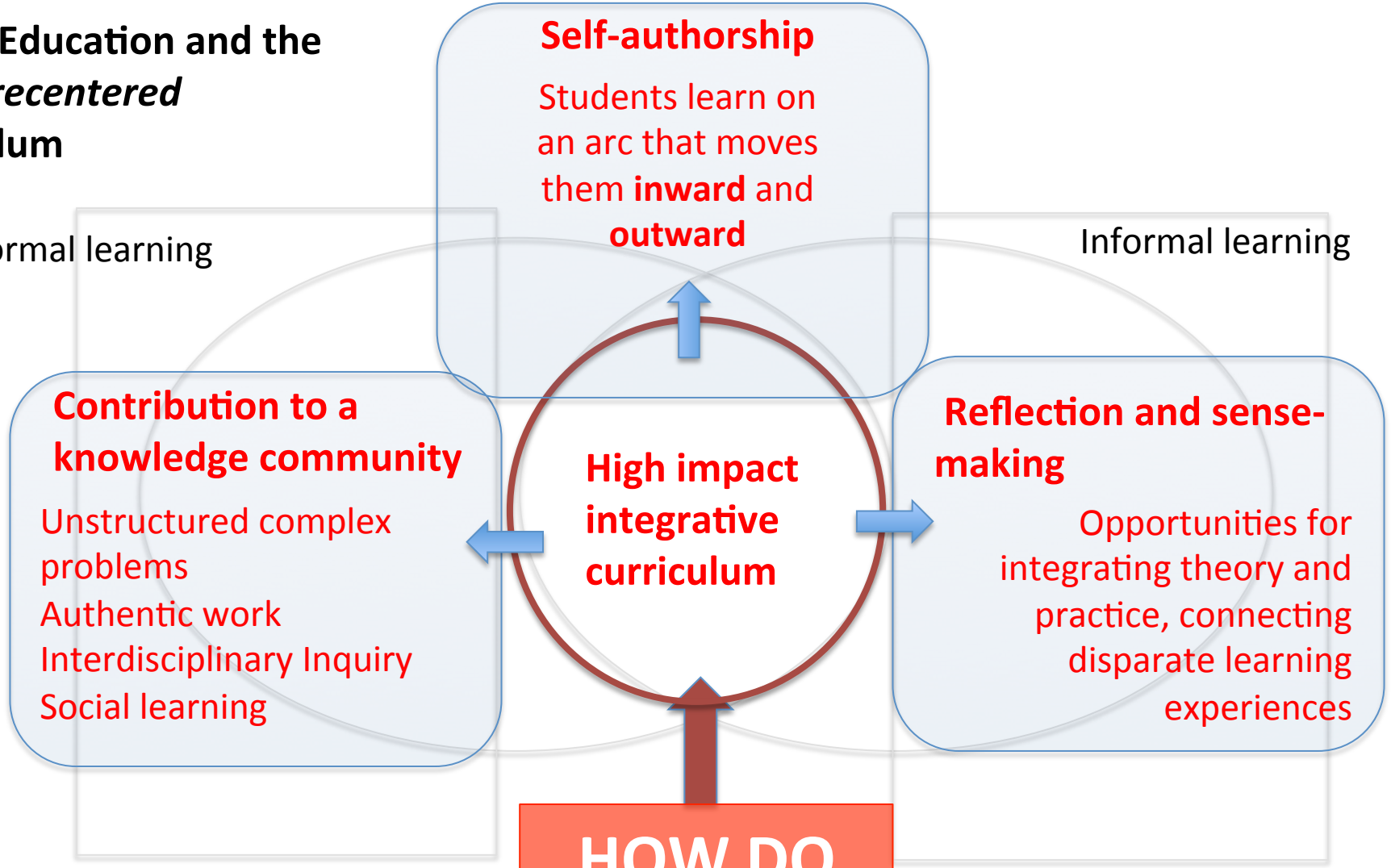
Experiential co-curriculum

Institutional Brand and Identity

Foundational Knowledge
Some generic and interchangeable
Some institutionally-distinctive expertise

Local and Identity
Jesuit and Catholic
Mentor-based tradition
Residential, Diverse

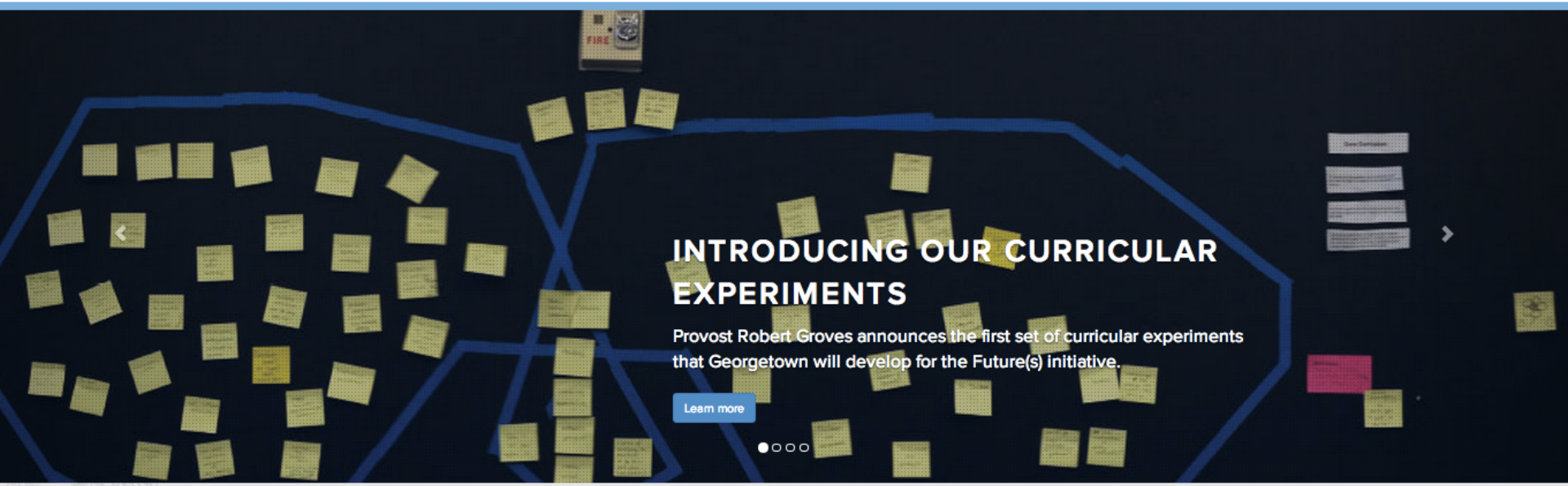
Liberal Education and the future *recentered* Curriculum



Foundational Knowledge
Some generic and interchangeable
Some institutionally-distinctive expertise

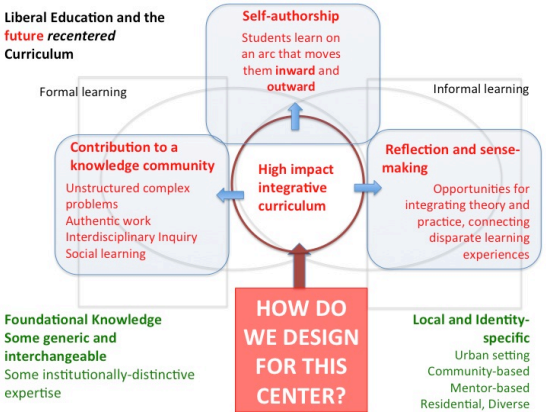
HOW DO WE DESIGN FOR THIS CENTER?

Local and Identity-specific
Urban setting
Community-based
Mentor-based
Residential, Diverse



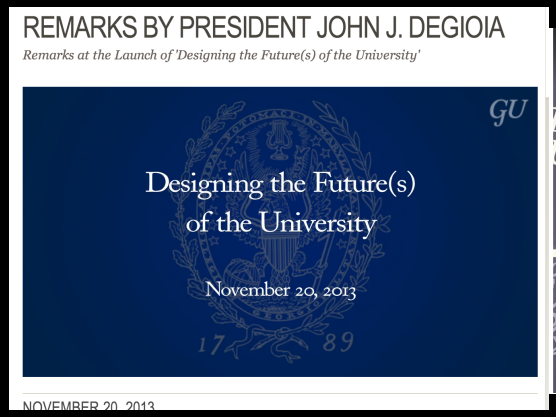
DESIGNING THE FUTURE(s) of the university

Designing the Future of the University: Checklist for Innovation



- ✓ Affirm the purposes of higher education. Commit to learning outcomes for which the university is uniquely suited.

Jack DeGioia, President, Georgetown



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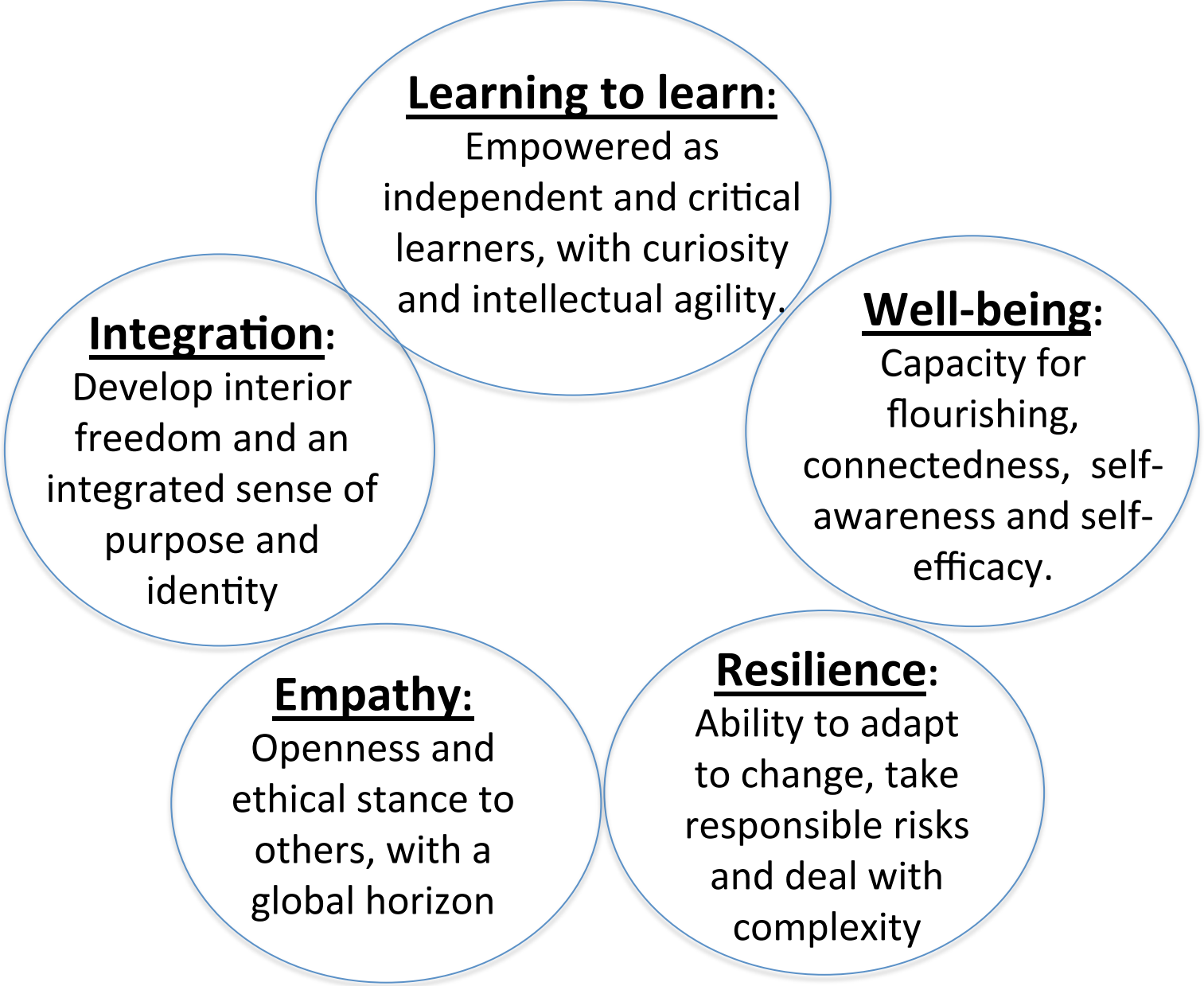
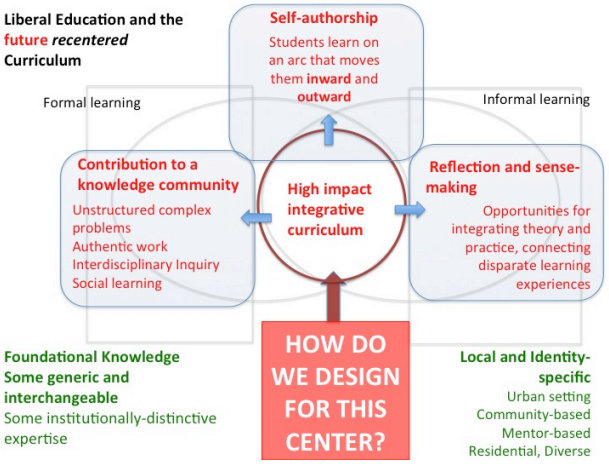


***Magis Measures*: Formational Wider Outcomes (interdependent with skills, knowledge, abilities)**

Designing the Future of the University: Notes on Innovation

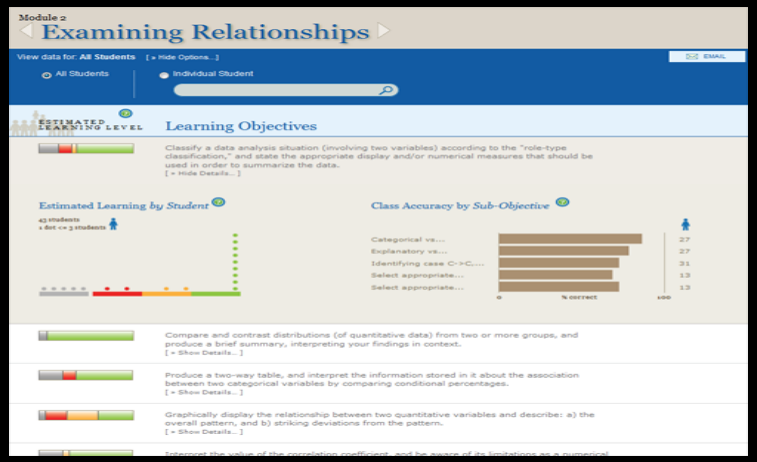


- ✓ Affirm the purposes of higher education. Commit to learning outcomes for which the university is uniquely suited.
- ✓ Distinguish between core practices and habitual structures.
- ✓ Explore opportunities to *reinvent constraints* …

What are the constraints that keep you from engaging students more deeply with learning?

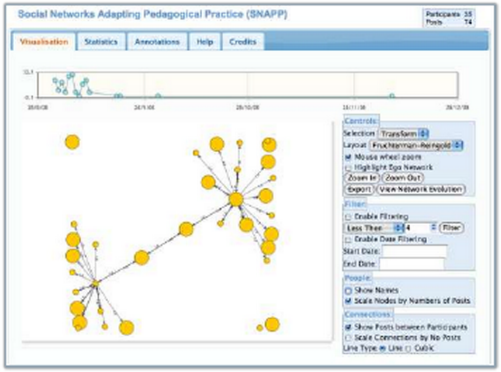
- ✓ Scale and feedback

Learning Analytics



Adaptive Learning

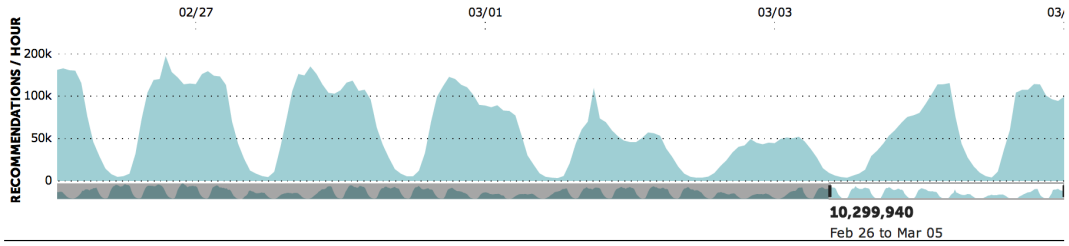
SNAPP: A Bird's-Eye View of Temporal Participant Interaction



The Knewton Adaptive Learning Platform

Updated regularly

145,107,610 TOTAL RECOMMENDATIONS SERVED



Intelligent tutors

Course Features

ENACTING LEARNING

Our courses proactively engage students to put new knowledge into practice and to assess their own progress. Activities and assessments embedded throughout the content help to ensure that students understand concepts rather than only memorize facts.

Features for Students

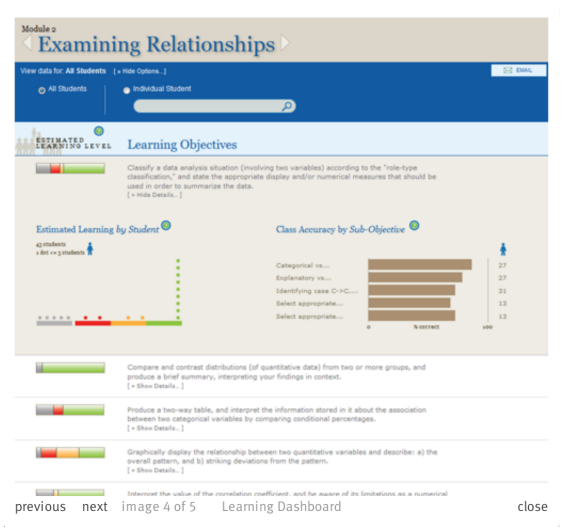
In addition to high-quality text, our courses also include practice activities, self-assessments, and graded assessments. All course content is included and structured to support the student's achievement of clearly defined learning objectives.

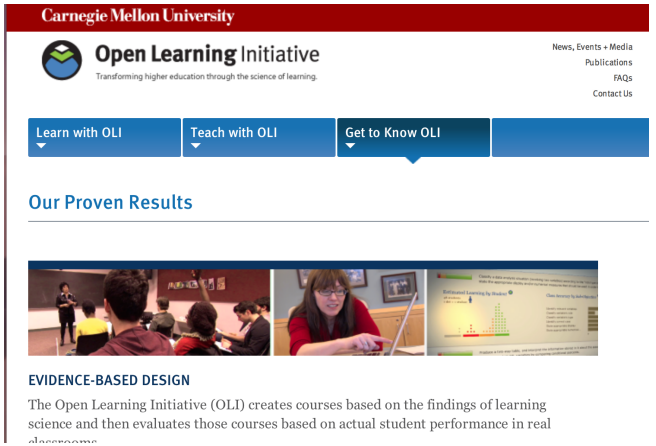
OPENNESS + ANALYTICS

The infinite variety that OERs provide creates challenges for using learning analytics to drive adaptive teaching and learning, support iterative improvement and demonstrate effectiveness. OLI's John Rinderle and Norman Bier discuss this topic at the Open Education 2011 conference.

UX + INSTRUCTIONAL DESIGN

Reinventing Introduction to Statistics





15-week Traditional Statistics Course

8-9 weeks with OLI materials + Professor

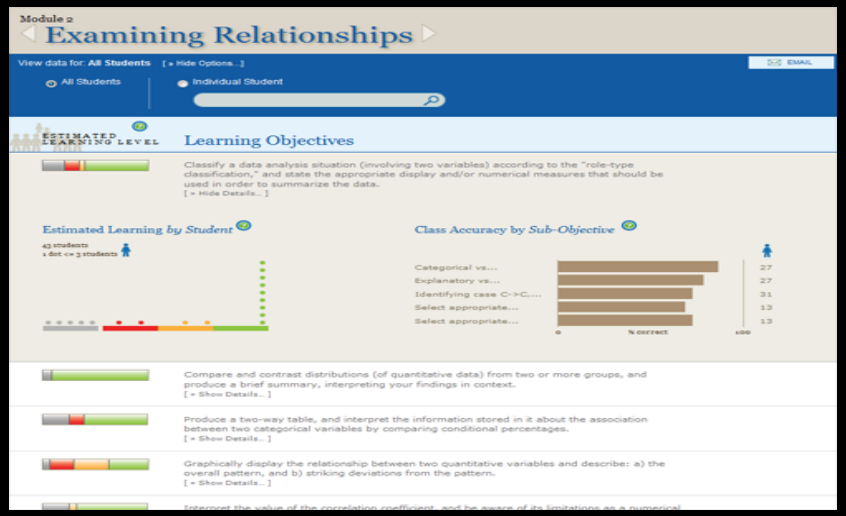
Remaining 5-6 weeks

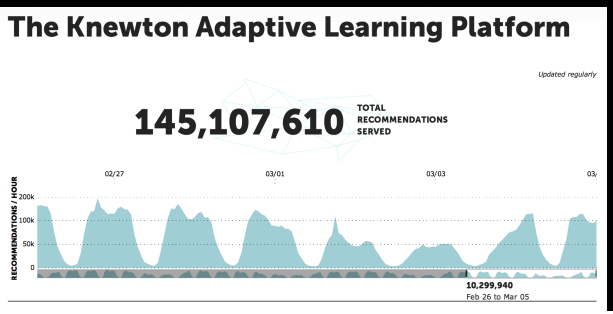
Applied projects on student Interests

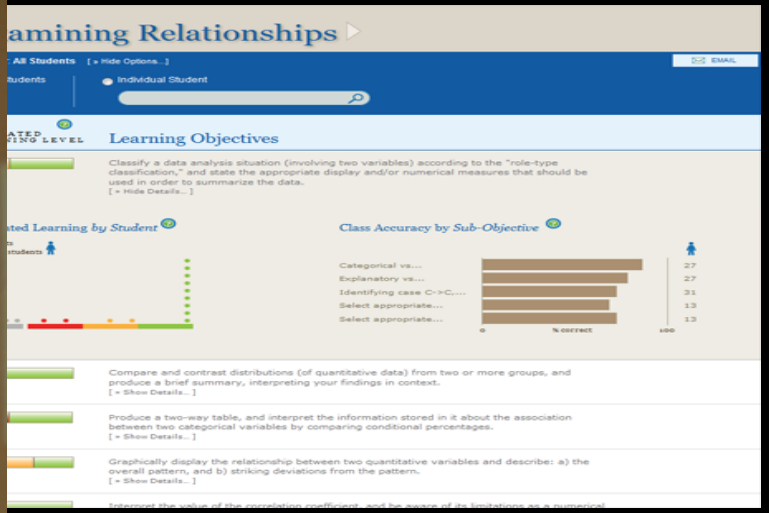
Advanced topics and problem-solving

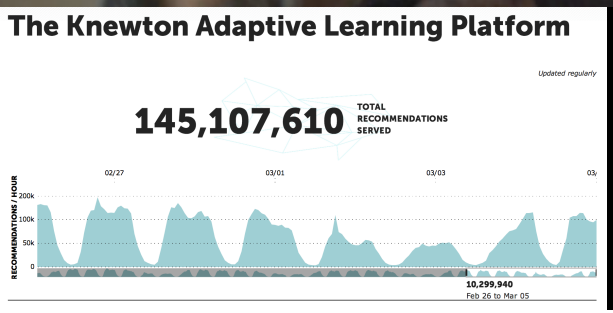
Learning Analytics:

Personalization of instruction
…through data
…at scale



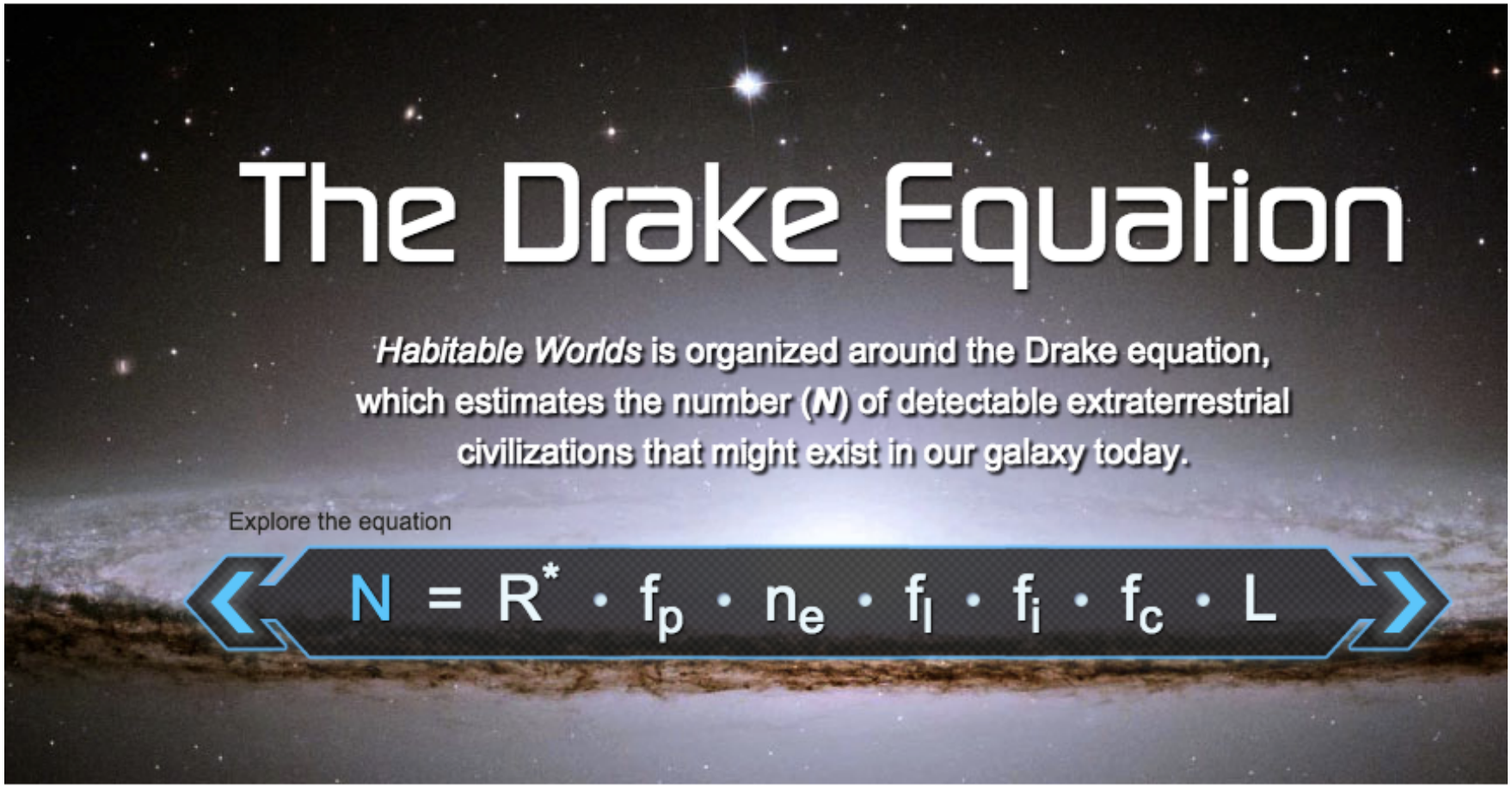




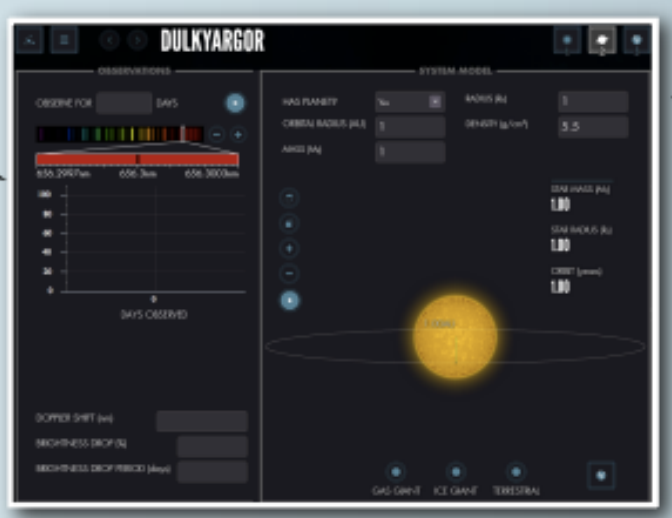


Machine/Algorithm
+
Human Judgment

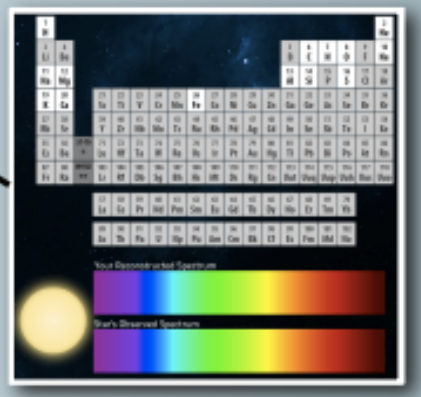
Habitable Worlds – Online Course at Arizona State University



Virtual Field Trips
allow exploration of exotic settings and the science at work there



Simulators – bring scientific concepts to life



piazza

Social Networking
gives students the power to help each other while building a help archive

SMART SPARROW

Intelligent Tutoring System
gives instructor power to design, structure, and analyze "smart" lessons

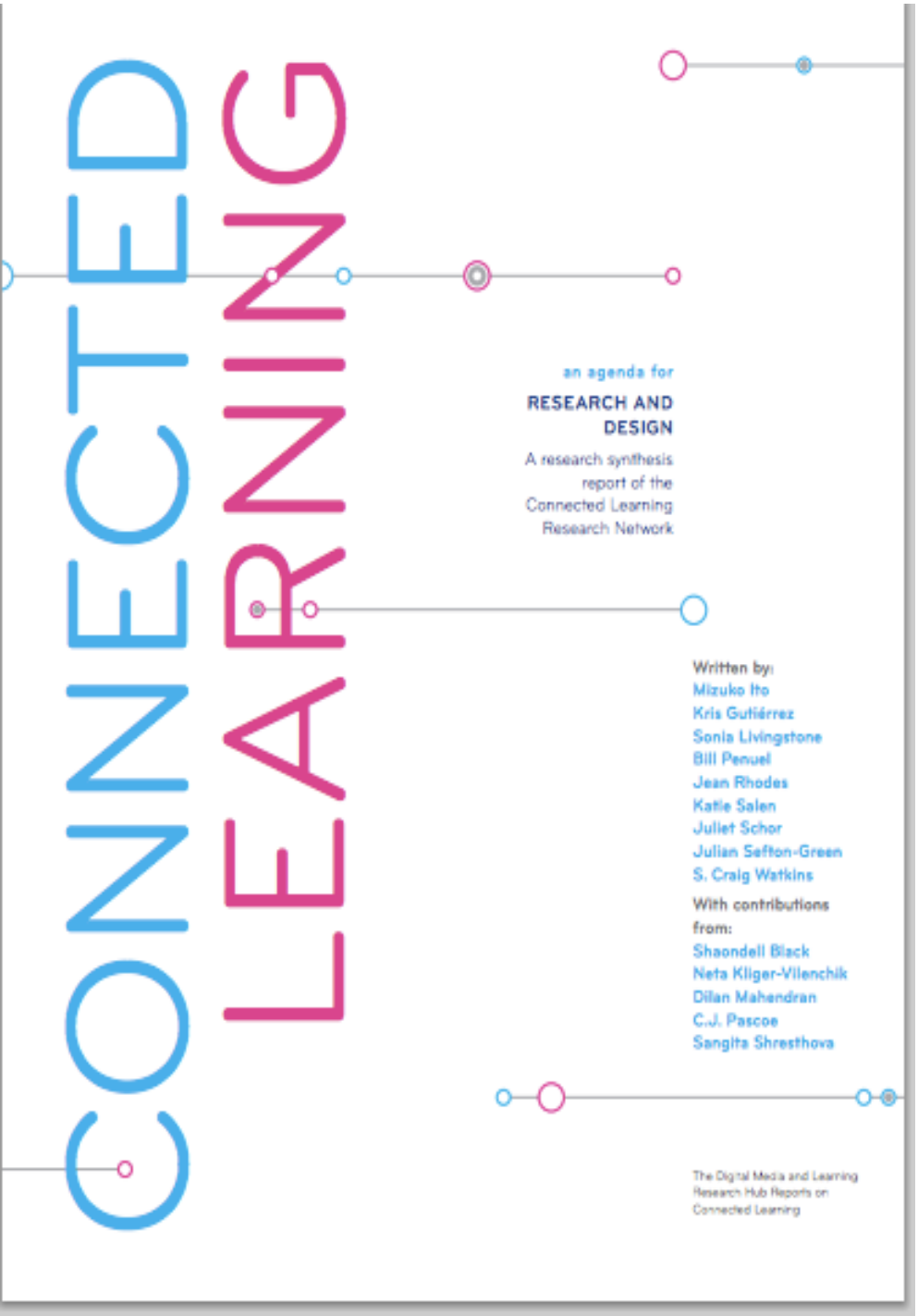
Developers:

Professor Ariel Anbar: anbar@asu.edu
Dr. Lev Horodyskyj: LevH@asu.edu
http://www.habworlds.org

Developed jointly with ASU Online, Mary Lou Fulton Teacher's College, College of Liberal Arts and Sciences, and the NASA Astrobiology Institute.

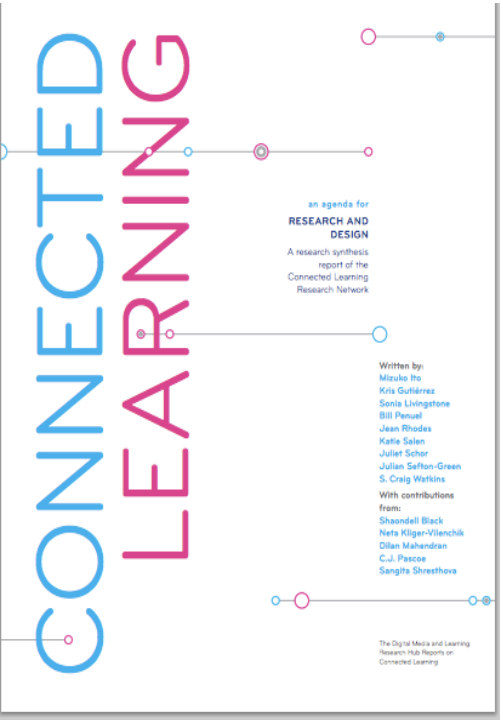
Learn from the Web.

Engagement at scale is possible…



"Connected learning is realized when a young person pursues a personal interest or passion with the support of friends and caring adults, and in turn is able to link this learning to academic achievement, career possibilities and civic engagement."

Mimi Ito, et. al. ***Connected Learning: an agenda for research and design***



Connected Learning is …

interest-driven

unscripted

peer-supported

production-centered

shared purpose

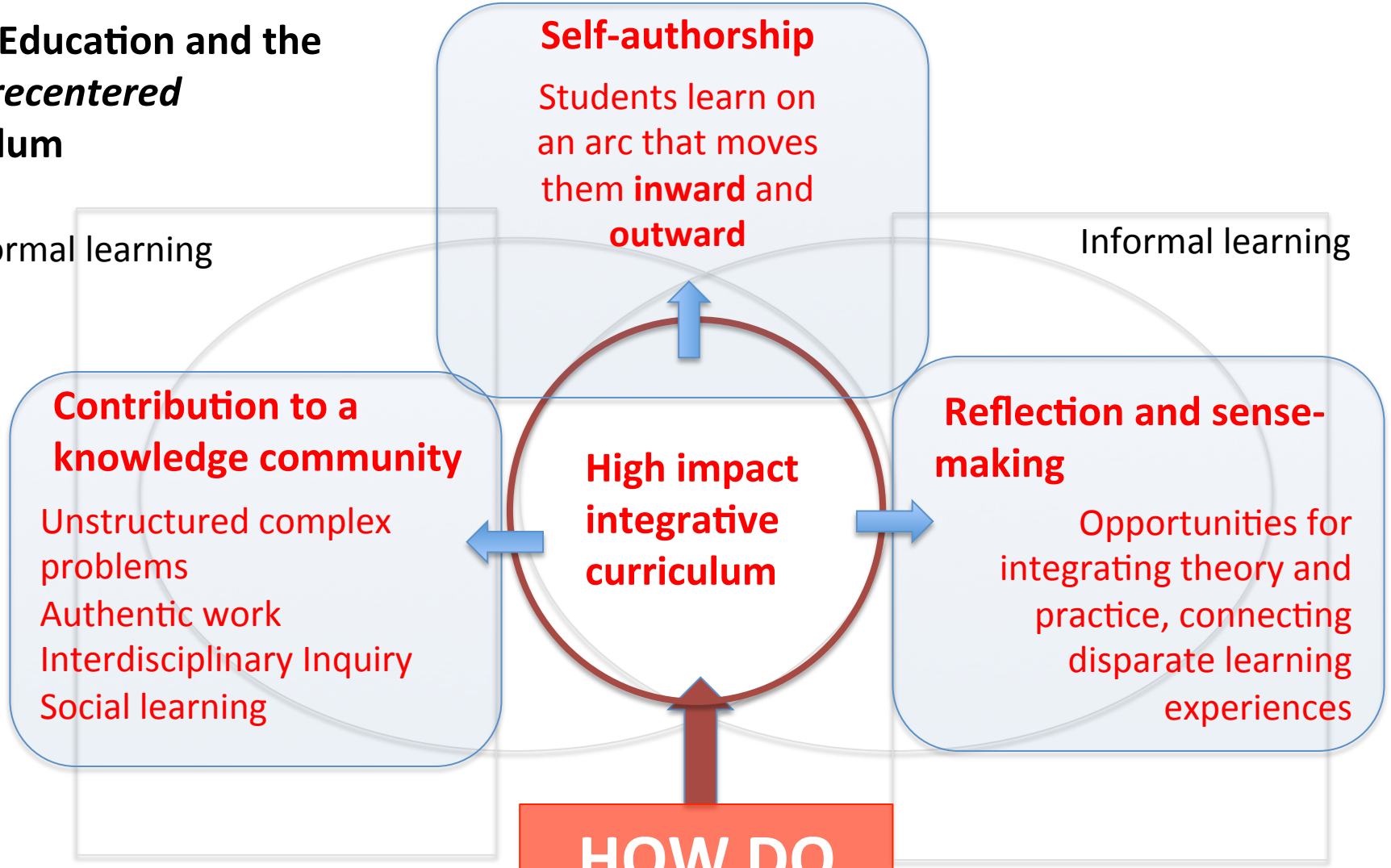
openly networked

Learn from the Web.

Engagement at scale is possible…

…if it is interest-driven, networked (participatory), and supported by data/analytics.

Liberal Education and the future *recentered* Curriculum



Foundational Knowledge
Some generic and interchangeable
Some institutionally-distinctive expertise

HOW DO WE DESIGN FOR THIS CENTER?

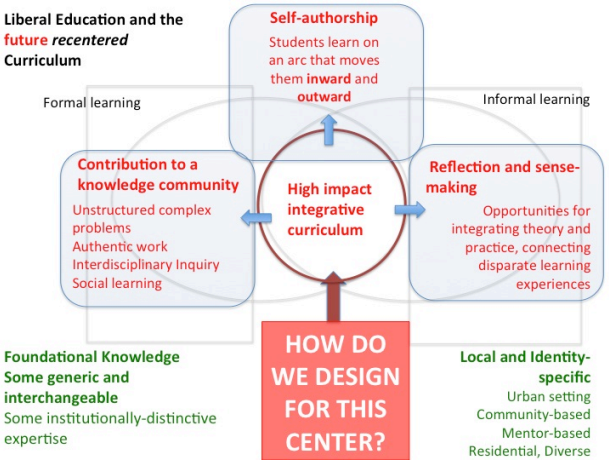
Local and Identity-specific
Urban setting
Community-based
Mentor-based
Residential, Diverse

Innovating for constraints?

- ✓ Scale and feedback

- ✓ Escape one-size fits all 15-week, 3-credit courses?
- ✓ How to expand mentored learning?
- ✓ Make i*nterdisciplinary teaching* cost effective?
- ✓ Connect curriculum and co-curriculum?
- ✓ Better integrate educational and scholarly missions?
- ✓ Engage students in collaborative work on complex problems earlier and in more varied ways?

Designing the Future of the University: Checklist for innovation



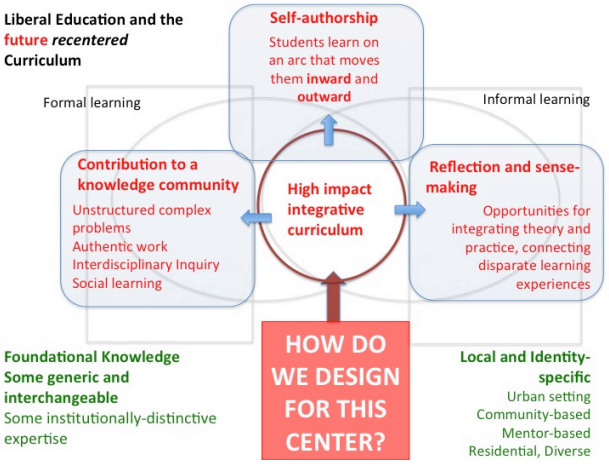
- ✓ Affirm the purposes of higher education. Commit to the learning outcomes for which the university is uniquely suited.
- ✓ Distinguish between core practices and habitual structures.
- ✓ Explore opportunities to *reinvent constraints* …

…in order to pursue the "adjacent possible."

“The adjacent possible is a kind of shadow future, hovering on the edges of the present state of things, a map of all the ways in which the present can reinvent itself.”

Steven Johnson, *Where Good Ideas Come From*

Designing the Future of the University: Notes on Innovation



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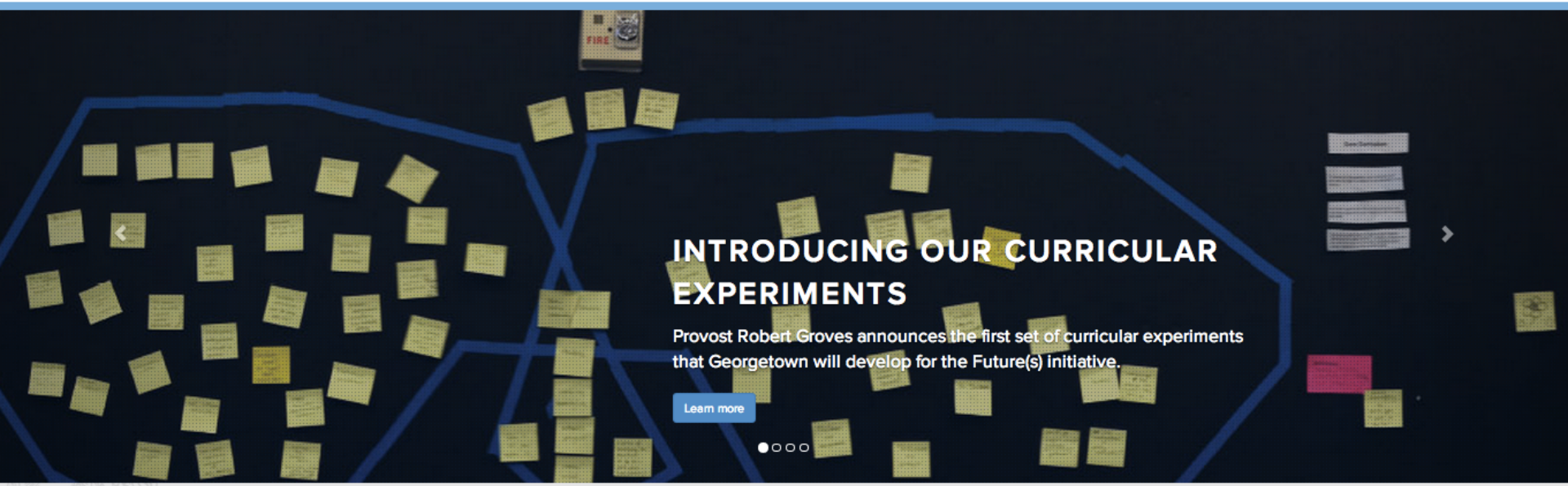
- ✓ Distinguish between core practices and habitual structures.
- ✓ Explore opportunities to *reinvent constraints* …

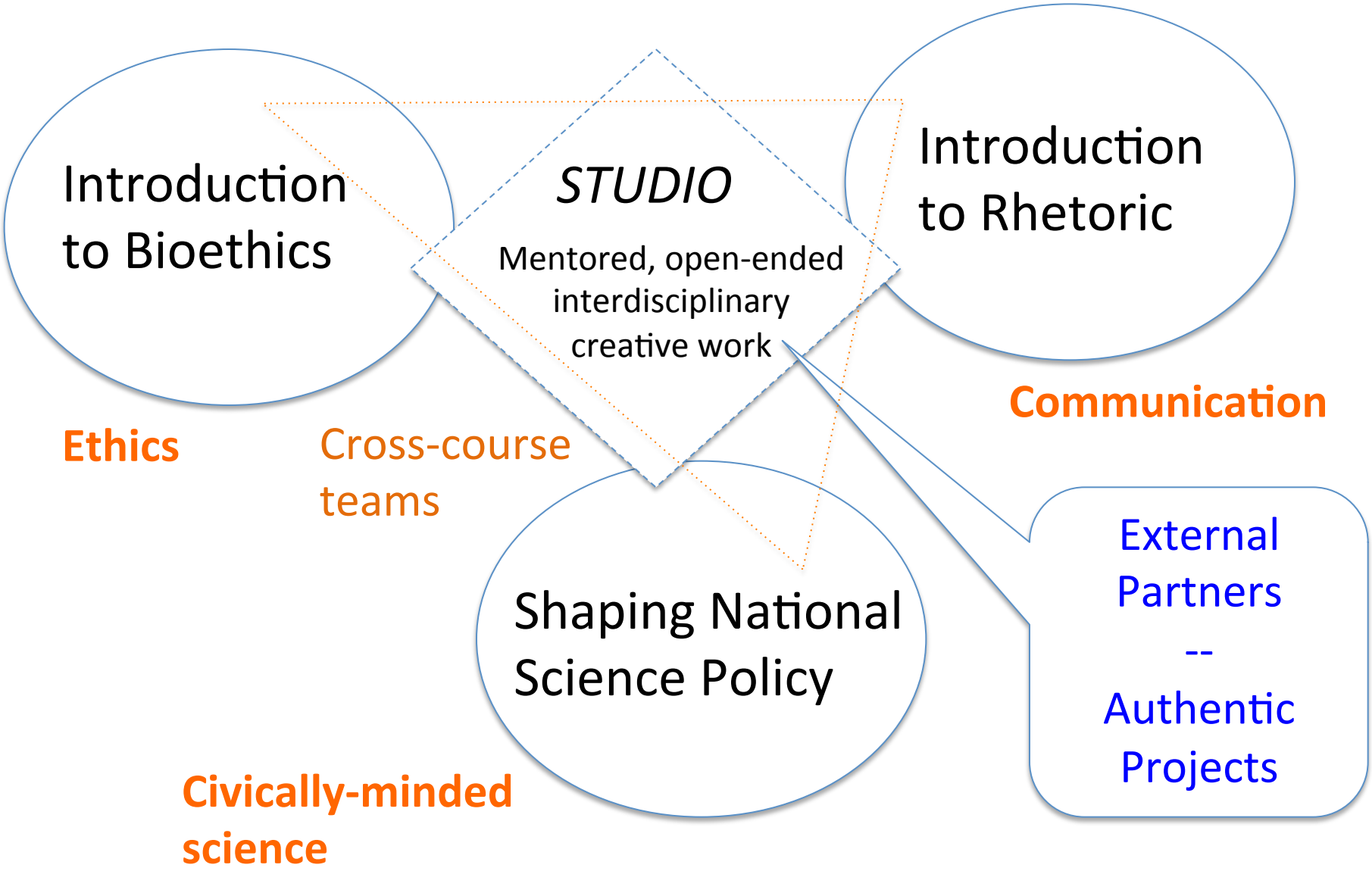
  …in order to pursue the "adjacent possible."
- ✓ Adopt an experimental stance – an integrated R&D



DESIGNING THE FUTURE(s) of the university

"Studio Collaborative"

Pilot Spring 2015



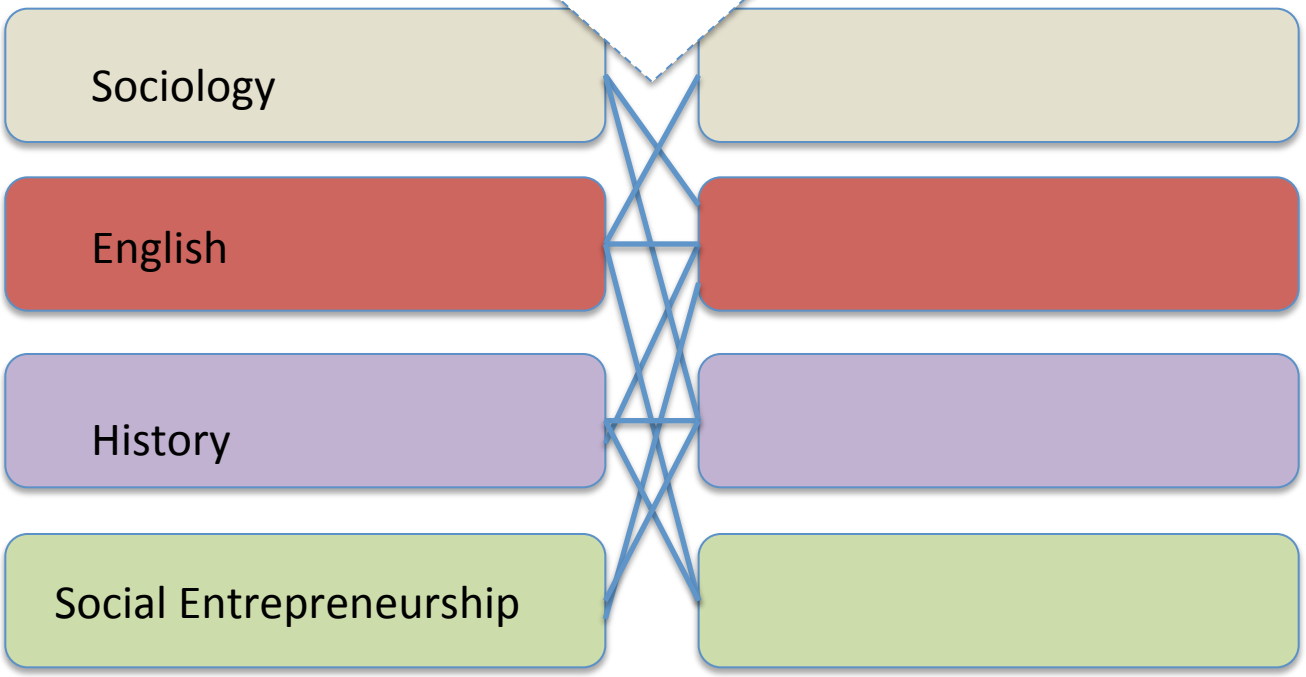
“DC / Urban Cluster”

Pilot Fall 2015

University’s sustained research projects & engagements

STUDIO

Students who want to continue their work on community-based projects



- Four Courses
- Urban themes
- Faculty design 1 seven week module
- Teach it twice

Rethinking Degrees: Minors, Majors, and whole Degrees

Minor/certificate in
Writing, Communication and Design

- 18 credits; no required courses
- Three major projects assessed through three rigorous portfolio reviews

Modeling what a degree might look like that is wholly or partially *project-based. Separating credits from seat time.*

Next in development:

Cross-campus minor in **Entrepreneurship**

Project-based minor in **Bioethics**

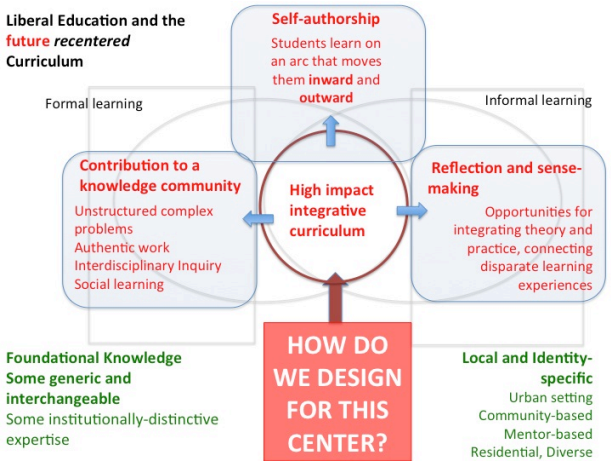
Rethinking Degrees: Minors, Majors, and whole Degrees

Four-year integrated bachelors / masters

“The trick to having good ideas is not to sit around in glorious isolation and try to think big thoughts. The trick is to get more parts on the table.”

Steven Johnson, *Where Good Ideas Come From*

Designing the Future of the University: Checklist for Innovation



✓ Affirm the purposes of higher education. Commit to the learning outcomes for which the university is uniquely suited.

✓ Distinguish between core practices and habitual structures.

✓ Adopt an experimental stance – an integrated R&D

✓ Explore opportunities to *reinvent constraints* …

…in order to pursue the "adjacent possible."

✓ Combine top-down permission to experiment with grassroots faculty-driven activity. Engage wide circle of stakeholders in collaborative design.

The great tension of our time in education is between integration and dis-integration.

The split logic of the learning paradigm

Disintegrative:

Design of discrete or granular learning experiences

Competency-based learning

Learning decoupled from formal boundaries

Analytics that track narrow or micro learning

Integrative (holistic, coherent):

Design of whole learning experiences

Curricular and co-curricular Competencies conceived as part of a whole

Connections & integration

The University in the future

In the new landscape, there are only two dimensions of education that will be unique to universities:

Mentored learning

The arc of learning

Designing a more integrated university

What's it take?

CONNECT aspects of the university that have typically been disconnected.

UNBUNDLE some of our structures in order to give us more flexibility to innovate and integrate.

Find new ways to **SHAPE** a whole education that takes full advantage of the new learning ecosystem that is much larger than the university.

Formation
(Whole Student)

Integration

Transformation

Randy Bass
Georgetown University

bassr@georgetown.edu